

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Withdrawn) A method for performing a ranging operation by a subscriber station in a mobile communication system using a broadband wireless access scheme, the method comprising the steps of: receiving, from a base station, backoff domains having a backoff start point and a backoff end point for each of rangings, determined according to priority levels of the rangings between the base station and subscriber stations; performing a ranging operation with the base station, and selecting a backoff domain corresponding to a priority level of the performed ranging among the received backoff domains if the ranging fails; and re-performing a ranging operation with the base station according to the selected backoff domain.

2. (Withdrawn) The method of claim 1, wherein the priority level is determined according to a service quality level of data provided to the subscriber stations and whether handover of the subscriber stations is performed.

3. (Withdrawn) The method of claim 1, wherein the step of re-performing a ranging operation with the base station according to the selected backoff domain comprises the step of re-performing a ranging operation with the base station at a particular time between the back start point and the backoff end point for the selected backoff domain.

4. (Withdrawn) The method of claim 1, wherein the backoff domains are determined so that a time period occupied by a backoff domain having a highest priority level becomes a shortest time period and a time period occupied by a backoff domain having a high priority level is shorter than a time period occupied by a backoff domain having a low priority level.

5. (Cancelled)

6. (Withdrawn) A method for transmitting backoff values used for rangings between a base station and subscriber stations in a mobile communication system using a broadband

wireless access scheme, the method comprising the steps of: determining backoff domains having a backoff start point and a backoff end point according to a priority level of each of the rangings, for each of the rangings; and transmitting the backoff domains determined for each of the rangings to the subscriber stations.

7. (Withdrawn) The method of claim 6, wherein the priority level is determined according to a service quality level of data provided to the subscriber stations and whether handover of the subscriber stations is performed.

8. (Withdrawn) The method of claim 6, wherein, the step of determining backoff domains according to a priority level of each of the rangings comprises the step of determining the backoff domains so that a time period occupied by a backoff domain having a highest priority level becomes a shortest time period and a time period occupied by a backoff domain having a high priority level is shorter than a time period occupied by a backoff domain having a low priority level.

9. (Withdrawn) A method for performing a ranging operation in a mobile communication system using a broadband wireless access scheme, the method comprising the steps of: periodically receiving by a subscriber station a broadcasting message and uplink channel information (UL-MAP) from a base station by detecting on a common control channel; randomly selecting an access channel to be accessed through the uplink channel information, and then transmitting a ranging request message for an access in the selected access channel; comparing the number of retransmissions of the request message with a predefined value, if reception of a response message from the base station exceeds a response waiting time; comparing the number of retransmissions with an allowable access processing time if the number of retransmissions is smaller than the predefined value; selecting a backoff domain according to a priority level of a service level if the number of retransmissions does not exceed the allowable access processing time; and selecting a backoff value and calculating a backoff time from the selected backoff domain, and re-transmitting a ranging request message in the access channel if the calculated backoff time has passed.

10. (Withdrawn) The method of claim 9, wherein the priority is determined according to a service quality level of data provided to the subscriber stations and whether handover of the subscriber stations is performed.

11. (Withdrawn) The method of claim 9, wherein the step of re-performing a ranging operation with the base station according to the selected backoff domain comprises the step of re-performing a ranging operation with the base station at a particular time between the back start point and the backoff end point for the selected backoff domain.

12. (Withdrawn) The method of claim 9, wherein the backoff domains are determined so that a time period occupied by a backoff domain having a highest priority level becomes a shortest time period and a time period occupied by a backoff domain having a high priority level is shorter than a time period occupied by a backoff domain having a low priority level.

13. (Withdrawn) The method of claim 9, further comprising the steps of: adjusting by the subscriber station a local parameter according to a response message, if the response message is received from the base station for the response message reception waiting time; determining whether the adjusted parameter is normal, and performing error processing if the adjusted parameter is abnormal; and re-transmitting an access request message on the selected access channel if the adjusted parameter is normal.

14. (Currently Amended) ~~A handover-method for requesting ranging when a subscriber station enters a network for handover~~performing handover by a subscriber station in a mobile communication system, the method comprising the steps of: ~~upon receiving the request, transmitting by a base station~~

if a ranging with a base station is failed, receiving a backoff domain including backoff start information and backoff end information for handover from the base station; and

-determining a backoff value for handover according to the backoff start information and the backoff end [[5]] information by a subscriber station that received the backoff start and end

information.

15. (Currently Amended) The method of claim 14, further comprising the step of re-requesting ranging after waiting for a ~~predetermined~~ determined backoff value, if ranging fails when the subscriber station enters a network for handover.

16. (Currently Amended) A method for performing handover ~~on a common access channel by a base station~~ in a mobile communication system, the method comprising the steps of: broadcasting, ~~by a base station,~~ information to ~~cells over~~ subscriber stations using a forward common control channel periodically or on an on-demand basis;

wherein the ~~broadcasting step~~ information comprises the steps of: broadcasting channel assignment information for an access channel corresponding to the ~~a reverse~~ common access channel to the cells ~~periodically or an on-demand basis;~~ and broadcasting separation information of at least two backoff domains including backoff start information and backoff end information in at least one ~~the reverse~~ common access channel to the cells ~~periodically or an on-demand basis.~~

17. (Currently Amended) The method of claim 16, wherein the ~~broadcasting step~~ further comprises the steps of:

receiving an access request message from one of the subscriber stations; and ~~determining whether the base station is a system capable of providing a corresponding access service for the subscriber station;~~ and

transmitting an access request response message including a connection identifier (CID) ~~authenticated by a system that transmits the access request from~~ to one of the subscriber stations.

18-21. (Cancelled)

22. (Currently Amended) The method of claim 17, wherein the access request message ~~of the subscriber station includes~~ one of an initialized access request message requested to the base station by one of the subscriber stations for a handover processing time; and a network access request message ~~for including~~ a field indicating a handover request type ~~including handover;~~ and

~~an access request response message transmitted to the subscriber station by the base station after normally receiving an access request message from the subscriber station and determining whether the base station can provide a corresponding access service for the subscriber station.~~

23. (Currently Amended) The method of claim 22, wherein the network access request message ~~for handover is acquired~~ determined by adding ~~a~~ the field defining ~~a~~ the handover request type to ~~an~~ the initial access request message.

24. (Currently Amended) The method of claim 22, wherein the network access request message ~~for handover is an access request message~~ is determined by using information on previously assigned pseudo-random codes.

25-38. (Cancelled)

39. (Currently Amended) A ~~handover apparatus~~ subscriber station for ~~providing an access service on a common access channel~~ performing handover in a mobile communication system, the ~~apparatus~~ subscriber station comprising:

~~a subscriber station that requests ranging as it enters a network for handover; and a base station that transmits handover information to the subscriber station; wherein when the subscriber station requests ranging as it enters the network for handover, the subscriber station a receiver for receiving a backoff domain including backoff start information and backoff end information from a base station;~~

~~a controller for, if a ranging with the base station is failed, receives~~ receiving the backoff domain including the backoff start information and the backoff end information from the base station by controlling the receiver, and determines determining a backoff value for handover according to the ~~received~~ backoff start information and the backoff end information.

40. (Currently Amended) The ~~handover apparatus~~ subscriber station of claim 39, wherein the ~~subscriber station controller~~ re-requests ranging to the base station after waiting for the determined backoff value ~~when the ranging fails.~~

41. (Currently Amended) The ~~apparatus-subscriber station~~ of claim 39, wherein the backoff start information is formed with an initial backoff window size for performing initial ranging of the subscriber station for a handover processing time.

42. (Currently Amended) The ~~apparatus-subscriber station~~ of claim 39, wherein the backoff end information is formed with a final backoff window size for performing initial ranging of the subscriber station.

43. (Withdrawn) An apparatus for performing a ranging operation in a mobile communication system using a broadband wireless access scheme, the apparatus comprising: a subscriber station for receiving and selecting, from a base station, backoff domains having a backoff start point and a backoff end point for each of rangings determined according to a priority level; wherein if the subscriber station fails to perform ranging, the subscriber station selects a backoff domain corresponding to a priority level of the ranging among the received backoff domains and re-performs a ranging operation with the base station according to the selected backoff domain.

44. (Withdrawn) The apparatus of claim 43, wherein the priority level is determined according to a service quality level of data provided to the subscriber stations and whether handover of the subscriber stations is performed.

45. (Withdrawn) The apparatus of claim 43, wherein the operation of re-performing a ranging operation with the base station according to the selected backoff domain comprises re-performing a ranging operation with the base station at a particular time between the backoff start point and the backoff end point for the selected backoff domain.

46. (Withdrawn) The apparatus of claim 43, wherein the backoff domains are determined so that a time period occupied by a backoff domain having a highest priority level becomes a shortest time period and a time period occupied by a backoff domain having a high priority level

is shorter than a time period occupied by a backoff domain having a low priority level.

47. (Withdrawn) An apparatus for transmitting backoff values used for rangings of subscriber stations in a mobile communication system using a broadband wireless access scheme, the apparatus comprising: a base station for determining backoff domains having a backoff start point and a backoff end point according to a priority level of each of rangings, for each of the rangings, and transmitting the backoff domains determined for each of the rangings to the subscriber stations.

48. (Withdrawn) The apparatus of claim 47, wherein the priority level is determined according to a service quality level of data provided to the subscriber stations and whether handover of the subscriber stations is performed.

49. (Withdrawn) The apparatus of claim 47, wherein the backoff domains are determined according to a priority level of each of the rangings so that a time period occupied by a backoff domain having a highest priority level becomes a shortest time period and a time period occupied by a backoff domain having a high priority level is shorter than a time period occupied by a backoff domain having a low priority level.

50. (New) The subscriber station of claim 39, wherein the backoff domain corresponds to a priority level of the ranging, and

wherein the priority level is determined according to a service quality level of data provided to the subscriber station and whether handover of the subscriber station is performed.

51. (New) The method of claim 14, wherein the backoff start information is formed with an initial backoff window size for performing initial ranging of the subscriber station for a handover processing time.

52. (New) The method of claim 14, wherein the backoff end information is formed with a final backoff window size for performing initial ranging of the subscriber station.

53. (New) The method of claim 14, wherein the backoff domain corresponds to a priority level of the ranging, and

wherein the priority level is determined according to a service quality level of data provided to the subscriber station and whether handover of the subscriber station is performed.

54. (New) The method of claim 16, wherein the at least two backoff domains corresponds to a priority level of ranging for each of the subscriber stations,

wherein the priority level is determined according to a service quality level of data provided to each of the subscriber stations and whether handover of each of the subscriber stations is performed.

55. (New) A base station for performing handover in a mobile communication system, the base station comprising:

a transmitter for broadcasting information to subscriber stations using a forward common control channel periodically or on an on-demand basis,

wherein the information comprises channel assignment information corresponding to a reverse common access channel and separation information of at least two backoff domains including backoff start information and backoff end information in the reverse common access channel.

56. (New) The base station of claim 55, further comprising a receiver for receiving an access request message from one of the subscriber stations, and

wherein the transmitter transmits an access request response message including a connection identifier (CID) to one of the subscriber stations, when the access request message is received.

57. (New) The base station of claim 56, wherein the access request message includes one of an initialized access request message requested by one of the subscriber stations to the base

station for a handover processing time, and a network access request message including a field indicating a handover request type.

58. (New) The base station of claim 57, wherein the network access request message is determined by adding the field defining the handover request type to the initial access request message.

59. (New) The base station of claim 57, wherein the network access request message is determined by using information on previously assigned pseudo-random codes.

60. (New) The base station of claim 55, wherein the at least two backoff domains correspond to a priority level of ranging for each of the subscriber stations,
wherein the priority level is determined according to a service quality level of data provided to each of the subscriber stations and whether handover of each of the subscriber stations is performed.